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10/734,355	12/12/2003	Michael A. Rothman	INTEL/17854	3555

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EXAMINER

ROMANO, JOHN J

ART UNIT	PAPER NUMBER
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2192

MAIL DATE	DELIVERY MODE
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09/27/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/734,355

Applicant(s)

ROTHMAN ET AL.

Examiner

John J. Romano

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 July 2007.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 7/03/2007

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Remarks

1. Applicant's amendment and response received July 3rd, 2007, responding to the April 3rd, 2007, Office action provided in the rejections of claims 1-20, wherein independent claims 1, 8, and 15 have been amended, and claims 1-20 remain pending in the application and which have been fully considered by the examiner.

It is noted that Applicant's remarks (page 7 of 11, first paragraph) state that claims 1-6, 8-13 and 15-20, remain in this application. However, it is observed that claims 1-20 remain. Accordingly, the examiner has fully considered claims 1-20.

Applicant's arguments, see response, page 7 of 11, second – last paragraph, with respect to the 112 rejections, have been fully considered and are persuasive. Accordingly, the respective 112 rejections of claims 7, 14 and 18 has been withdrawn.

Applicant's arguments with respect to amended claims have been considered but are moot in view of the new grounds of rejection.

Thus, the rejection of the claims over prior art in the previous Office action is maintained in light of additional new grounds of rejection as necessitated by amendment and **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after

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the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Prior Art's Arguments – Rejections

2. Applicant's arguments filed July 3rd, 2007, particularly pages 8-10, have been fully considered but they are not persuasive. For example,

(A) In regard to the Applicant's request for clarification, pertaining to the obvious rejection (page 8 of 11, second paragraph), wherein Applicant states that EFI fails to render the claimed subject matter obvious (page 8, 3rd + 4th paragraph), the examiner respectfully disagrees. EFI's disclosure, as applied in detail in the previous office action, mailed April 3rd, 2007, would have made it obvious, to one of ordinary skill in the art, at the time the invention was made, to receive a pre-boot code update in a pre-boot environment.

As explicitly applied in the previous office action (page 4) and reproduced herein-below for convenience:

"EFI does not expressly disclose implementing a pre-boot firmware update. However, one of ordinary skill in the art, at the time the invention was made would have been motivated to use the framework disclosed in the Extensible Firmware Interface Specification to update firmware. The suggestion to do so was disclosed by EFI, (See Section 1-2, last paragraph), wherein, the information contained in the EFI Specification can

be used by firmware vendors to implement EFI firmware. EFI also expressly discloses "updating EFI boot services" (See Section 1-2, third paragraph) in the pre-boot environment."

In this case, it is the examiner's position that EFI's suggestion of firmware vendors using the information disclosed in the EFI Specification as a framework to implement EFI firmware in the pre-boot environment as disclosed above, certainly would have suggested to one of ordinary skill in the art to install/ update firmware in a pre-boot environment. Furthermore, EFI discloses ("Introduction" section 1-1), wherein an abstract specification opens a route to replace firmware code over time. Accordingly, one of ordinary skill in the art, at the time the invention was made would have been motivated to use the framework disclosed in the Extensible Firmware Interface Specification to update firmware in a pre-boot environment.

Similarly, in this regard, it would have been necessary to receive the firmware in order to implement the firmware as disclosed by EFI, regardless of whether it was by computer readable media, internet connection or manually coded by a keyboard interface. Accordingly, Applicant's arguments are not persuasive and the rejection is maintained as addressed herein-above and below in the claim rejections.

B) In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., "prior to receiving the pre-boot code update" – see response, page 8, last paragraph) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims.

See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). In this case, the plain language of the claim does not require that the operating system is booted to a runtime environment before a pre-boot code update is received (emphasis added). In other words, there is no required order of the steps as recited presently in the claims.

C) In regard to the Applicant's arguments that EFI fails to pay any regard to whether such image will fit within an allocated space (page 9, 1st paragraph), the examiner respectfully disagrees. While it is true, that the LoadImage() function of EFI this does not mean that the image (code) is not stored to a first non-volatile memory if the code fits within the allocated space. It is the examiner's interpretation, that the source buffer (first memory) stores the code if the boot file (pre-boot code) fits. This is evident by the specification of the BufferSize parameter (E.g., see 11-2, "BufferSize"), wherein the instant parameter indicates if the file does, expressly "EFI_BUFFER_TOO_SMALL" and the size of the memory buffer needed to retrieve the requested file. Accordingly, as is disclosed as addressed herein, the image (code) is stored in the buffer (first memory) if the code fits within the allocated space of the buffer. Therefore, EFI does pay regard to whether such image will fit within the allocated space of the buffer. Accordingly, the rejection is maintained in light of the instant argument.

D) Applicant's arguments with respect to amended claims have been considered but are moot in view of the new grounds of rejection.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims **1-20** are rejected under 35 U.S.C. 103(a) as being unpatentable over "Extensible Firmware Interface Specification", Intel Corporation, Version 1.10, December 1, 2002, 1084 pages, (art of record & hereinafter **EFI**).

In regard to claim **1**, **EFI** discloses:

- *"A method of updating code comprising... receiving a pre-boot code update..."* (E.g., see Section "1.1 EFI Driver Model Extension"), wherein a method for accessing code in a pre-boot environment is disclosed. Also, see "Load_File()", 11-2, wherein if "BootPolicy" TRUE indicates that the file being retrieved (received) is a boot selection.

But **EFI** does not expressly disclose implementing a pre-boot firmware update. However, one of ordinary skill in the art, at the time the invention was made would have been motivated to use the framework disclosed in the Extensible Firmware Interface Specification to update firmware for the benefits known in the art of updating. The suggestion to do so was disclosed by **EFI**, (See Section 1-2, last paragraph), wherein, the information contained in the EFI Specification can be used by firmware vendors to implement EFI firmware. **EFI** also expressly discloses "updating EFI boot services" (See Section 1-2, third paragraph) in the pre-boot environment. Furthermore, **EFI** discloses

("Introduction" section 1-1), wherein an abstract specification opens a route to replace firmware code (updated firmware) over time. Accordingly, one of ordinary skill in the art, at the time the invention was made would have been motivated to use the framework disclosed in the Extensible Firmware Interface Specification to update firmware in a pre-boot environment.

- "...*storing the pre-boot code update to a first non-volatile memory if the pre-boot code update fits within an allocated space in the first non-volatile memory...*" (E.g., see Section 5-78 – 5-79, "Description"), wherein the image of the boot selection (boot update) is loaded into the source buffer (first memory), which may be stored on a FLASH memory as addressed herein-below.
- "...*booting an operating system to a runtime environment...*" (E.g., see Section 1-2), wherein an operating system loaders can be used to boot operating systems. It is noted by the examiner, that an effectively booting an operating system would render a runtime environment rather than the pre-boot environment.
- "...*setting an indication that a pre-boot code update is to be implemented in response to storing the pre-boot code update... clearing the indication that the pre-boot code update is to be implemented...*" (E.g., see Section 15-89), wherein a "EFI_Success" status code indicates that the code to be implemented is loaded (stored), wherein it is to be implemented for a PXE boot, optionally

prompted by a user with a menu of boot selections. Also, see 11-3, "boot policy".

- "...reading the pre-boot code update; implementing the pre-boot code update..." (E.g., see Section 11-3), wherein LoadFile() will implement a PXE boot.

EFI also does not expressly disclose "*clearing the indication that the pre-boot code update is to be implemented*". However, it would have been obvious to one of ordinary skill in the art, at the time of the invention to clear the flag upon implementation. The motivation would have been to employ the flag as typically used in computer programming, as a bit that can be set to 1 (i.e., set, raised, true) and respectively cleared 0 (i.e., unset, false) as a status variable, to indicate the respective status. In this case, one of ordinary skill in the art, would have known to clear the status variable, upon implementation for the known benefits of updating the status of a tracked variable (i.e., code update status). Accordingly, the teaching of a status variable as addressed above, which may be a pre-boot code update, would have made it obvious to clear the indicator upon implementing the corresponding action (code update).

In regard to claim 2, the rejections of base claim 1 are incorporated.

Furthermore, **EFI** discloses:

- "...writing the pre-boot code to a second non-volatile memory if the pre-boot code update does not fit within the allocated space in the first non-volatile memory and writing in the first non-volatile memory a pointer to the pre-boot code update stored in the second non-volatile

memory." (E.g., see Section 5-78 – 5-79, "Description"), wherein the image is loaded into the source buffer and if it does not fit within the source buffer a pointer to the image in a secondary memory. See Section 2-20 wherein the driver is loaded from both volatile and non-volatile memory.

But **EFI** does not expressly disclose "a second non-volatile memory" specifically with a pre-boot code update. However, it would have been obvious to one of ordinary skill in the art, at the time the invention was made to store a program in a second non-volatile memory. The motivation to do so comes from the teaching of **EFI** (see Section 1-2, first paragraph), wherein "one purpose of the EFI Driver Model is to provide a replacement for "PC-AT"-style option ROMs." **EFI** also discloses different types of non-volatile memory (See Section 2-20, "2.5.2 Driver Initialization"), wherein Flash memory is old and well known in the art to be employ firmware on startup and load files from a second non-volatile memory (for the benefits known in the art – See O'Neill below). Therefore, it would have been obvious to store larger code segments than could be reasonably stored in a Flash memory in non-volatile memory to be subsequently loaded.

In regard to claim **3**, the rejections of base claim **2** are incorporated.

Furthermore, **EFI** discloses:

- "...a *portion of a mass storage device.*" (E.g., see Section 2-20, "2.5.2 Driver Initialization").

In regard to claim **4**, the rejections of base claim **1** are incorporated.

Furthermore, see claim **2**.

In regard to claim **5**, see claim **1** and ("Introduction" section 1-1), wherein an abstract specification opens a route to replace firmware code over time.

In regard to claim **6**, the rejections of base claim **1** are incorporated.

Furthermore, see claim **2**.

In regard to claim **7**, the rejections of base claim **1** are incorporated.

Furthermore, **EFI** discloses:

- "...stored in a host-protected architecture." (E.g., see Section 2-20, "2.5.2 Driver Initialization").

In regard to claims **8-14**, this is an article of manufacture version of the claimed method discussed above, in claims **1-7**, wherein all claimed limitations have also been addressed and/or cited as set forth above. For example, see **EFI**, computer readable medium (E.g., see Section 2-20, "2.5.2 Driver Initialization"), wherein instructions to implement the process may be stored.

In regard to claim **15**, see claims **1** and **6**. Furthermore, **EFI** discloses a system comprising a network connection and a non-volatile memory (E.g., see Section 2-20, "2.5.2 Driver Initialization").

In regard to claims **16-20**, this is a system version of the claimed method discussed above, in claims **2, 4, 7** and **5**, respectively, wherein all claimed limitations have also been addressed and/or cited as set forth above. For example, see **EFI**, (E.g., see Section 2-20, "2.5.2 Driver Initialization"), a system is disclosed.

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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John J. Romano whose telephone number is (571) 272-3872. The examiner can normally be reached on 8-5:30, M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tuan Q. Dam can be reached on (571) 272-3695. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JJR


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SUPERVISORY PATENT EXAMINER